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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 09/987,404  
Filing Date: November 14, 2001  
Appellant(s): KAMIO ET AL.

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Scott M. Tulino  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 12 February 2008 appealing from the Office action mailed 13 July 2007.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

No amendment after final has been filed.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

6,289,698	ANTOS	9-2001
5,306,322	ISHIKAWA	4-1994

### **(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 1, 3-7 and 21-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa 5306322.

Claim 1:

**preparing a ring heater having an opening, said opening having an inner diameter (D), through which said porous-glass material passes, for heating said porous-glass material;**

See Example 3 of col. 9 of Ishikawa – which refers to figure 2.

Figure 2 shows the heater 24; it is deemed that it was inherently provided. Although it is not disclosed as being a ring heater with a diameter, col. 7, line 65 refers to the muffle

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tube has a diameter. The disclosure of a cylindrical muffler reasonably suggests the other associated elements (including the heater) have a cylindrical shape. Alternatively: It would have been obvious to have the heater 24 conform to the shape muffler tube, so as to have all portions of the muffler tube equidistant from the heater, so as to not have any hot spots. **From MPEP 2144.04**

**B. Changes in Shape**

In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966) (The court held that the configuration of the claimed disposable plastic nursing container was a matter of choice which a person of ordinary skill in the art would have found obvious absent persuasive evidence that the particular configuration of the claimed container was significant.).

It is noted that in the 1/12/2005 Office action (at the top of page 4) that 24 was a ring heater. Apparently, Applicant has never disputed that 24 is a ring heater. It uses the same graphical representation as Appellant uses for ring heater 26.

**preparing said porous-glass material having an outer diameter (d);**

Feature 21 is the porous-glass material having an outer diameter (d): see col. 9, lines 49-56. It is deemed it was inherently provided.

**putting said porous-glass material, formed by performing said preparing said porous-glass material, in the furnace;**

The putting step is disclosed: see col. 9, line 57.

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**and heating said porous-glass material in an atmosphere of dehydration gas and inert gas with said ring heater, wherein said outer diameter(d) of said porous-glass material is within a range of  $0.5 \times D < d < 0.9 \times D$ .**

The heating step is disclosed: see col. 9, lines 57-62. Helium is the inert gas.

Chlorine is the dehydration gas.

The wherein limitation of the 0.5-0.9 (d is in the range of 50% to 90% of D) range is not taught.

However, it would have been obvious to use as big or as small a preform as desired- depending upon the amount of fiber that one desires.

#### **From MPEP 2144.04**

##### **A. Changes in Size/Proportion**

In re Rose , 220 F.2d 459, 105 USPQ 237 (CCPA 1955) (Claims directed to a lumber package "of appreciable size and weight requiring handling by a lift truck" where held unpatentable over prior art lumber packages which could be lifted by hand because limitations relating to the size of the package were not sufficient to patentably distinguish over the prior art.); In re Rinehart, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976) ("mere scaling up of a prior art process capable of being scaled up, if such were the case, would not establish patentability in a claim to an old process so scaled." 531 F.2d at 1053, 189 USPQ at 148.).

In Gardner v. TEC Systems, Inc., 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984), the Federal Circuit held that, where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device.

Furthermore, one would not want to have a ratio to be very small – because then one would be wasting heat by heating up the gas between the muffle tube 23 and the preform. The ratio has to be less than 1.0. And one would not want it too close to 1.0 because it would be too difficult of a fit.

It is noted that one cannot make the preform any smaller than 0% of D, nor can it be greater than 100% of D. Claim 1 is directed to a large section of what is theoretically possible: 0.5-0.9 of a possible 0.0-1.0.

Alternatively, looking at col. 7, line 66 and col. 9, line 55.  $d/D_{\text{muffle}} = 0.93$ . However,  $D_{\text{heater}}$  is necessarily larger than the  $D_{\text{heater}}$ . So,  $d/D_{\text{heater}}$  in Ishikawa has to be substantially less than 0.93. However,  $d/D$  in Ishikawa could still be less than 0.5. It would have been obvious to make  $d/D$  as large as possible (and yet less than 0.93) because the bigger  $d$ , the larger the preform, and thus the more fiber that one can make.

Claim 3 is met for the reasons given above.

Claims 4 - 5, it would have been obvious to make the preform as large or as small as desired.

Claim 6: It would have been obvious to make the soot preform so as to make the final product as perfectly cylindrical as possible. It would have been obvious to make the preform as error free as possible.

Claim 7, the muffle tube is the part of the furnace that is surrounded by the ring heater.

Claims 21-25 are clearly met.

Claims 8, 10-15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa 5306322 in view of Antos 6289698.

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See how Ishikawa is applied above. Claim 8 is substantially the same as claim 1, except that claim 1 also has an elongating step that Ishikawa does not teach. However, it is known to stretch preforms, so as to reduce bubbles. It would have been obvious to stretch the consolidated Ishikawa preform so as to remove any remaining bubbles. Antos is cited as evidence that it is known to stretch preforms to reduce bubbles (col. 4, lines 5-34).

Claim 15 is similarly met.

Claims 10-14 and 17 are met for the reasons given above: they are substantially the same as the other depended claims.



**(10) Response to Argument**

It is argued that Examiner conceded that Ishikawa teaches a ratio of  $d/D = 0.93$ . This is not exactly correct, because there are two different ratios. The ratio of 0.93 is that the ratio of  $d/D_{\text{muffle}}$ . . . (This would correspond to a ratio of  $d/X$  in Appellant's figure 1). Presently, Claim 1 is directed to  $d/D_{\text{heater opening}}$ . one would understand that since  $D_{\text{muffle}} < D_{\text{heater opening}}$ , that the  $d/D$  of Ishikawa would have to be less than 0.93. Nevertheless Examiner has always held that Ishikawa does not explicitly disclose a value within the 0.5-0.9 range.

It is further argued that Appellant's two declarations established criticality of the claimed range. Examiner disagrees. The declarations did not reasonably show criticality. Examiner further found that even if they did show criticality, it failed to overcome the case for obviousness.

In response to the 19 July 2006 Declaration, Examiner wrote in the 9/07/2006 Office action:

Applicant has submitted evidence purported to demonstrate "importance (and unexpected superior results)". Examiner could find nothing which indicate the results obtained were either important or unexpected. Thus the unsupported assertion of importance and unexpected results is not convincing. Assertions cannot take the place of evidence. Nor has applicant explained how/why the results were truly important and truly unexpected. Examiner doubts that one would find it truly unexpected to find out that one would tend to bump a preform against a heater when there is not much clearance between the preform and the heater. Nonetheless it is not the Office's burden to show such is expected, rather the burden is entirely on applicant to show the result is unexpected.

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There is no showing that the evidence of record offered for comparison demonstrates results that are truly unexpected and commensurate in scope with the claims. In this regard, none of the claims are limited to the invention of tests 1-2 of the affidavit. All the tests show that D is 400 mm. The claims are not limited to 400 mm. Perhaps it is merely the spacing of 30-0 mm which causes the problem. Perhaps for a 100 mm preform, or a 500 mm preform, the optimal range is different. Likewise perhaps the length of the preform is an issue. A short preform might only bump when the range is 0.95D or greater.

Applicants have not met their burden of explaining how the results reported in the and affidavit can be extrapolated from the limited instances presented so as to be guaranteed as attainable through practicing the invention as broadly claimed. Moreover, Applicants have not met their burden of establishing that the reported results would have been truly unexpected (or important) to a person of ordinary skill in the art. In this regard, it is noted that Applicant have not furnished any detailed data regarding the actual experiments run with different lengths of preforms and with different furnace openings and data regarding the results obtained thereby. It is well established that the evidence relied on to establish unobviousness must be commensurate in scope with the claimed subject matter. See *In re Kerkhoven*, 626 F.2d 846, 851, 205 USPQ 1069, 1072-1073 (CCPA 1980) and *IN re Clemens*, 622 F.2d 1029, 1035, 206 USPQ 289, 296 (CCPA 1980).

In other words: the claims cover all sizes of furnaces and all sizes of preforms. But applicant has only shown results regarding a single sized furnace and a single length (3000 mm) preform. Since the claims are not limited to 3000 mm preforms or 400 mm furnaces, the evidence is not commensurate in scope with the evidence. [sic "commensurate in scope with the claims"]

In regards to the Declaration of 7 February 2007 it is noted that it does not even appear to assert criticality of unexpected results. Rather it only appears to assert "tremendous advantages". Examiner is unaware of any case law which suggests that "tremendous advantages" is evidence of unobviousness.

Arguments submitted with the 7 February 2007 declaration were not persuasive.

Examiner responded:

Applicant argues that submitted graphs 1-2 show unexpected and important results. It is noted that Applicant has failed to show the results are truly unexpected. Applicant merely concludes the "significantly decreased" error is unexpected – but this appears merely to be a conclusion. Just because something is "significant" it does not make it unexpected. Just because applicant asserts something is unexpected, it does not make it unexpected. Evidence is required.

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**I. ARGUMENT DOES NOT REPLACE EVIDENCE WHERE EVIDENCE IS NECESSARY**

Attorney argument is not evidence unless it is an admission, in which case, an examiner may use the admission in making a rejection. See MPEP § 2129 and § 2144.03 for a discussion of admissions as prior art.

The arguments of counsel cannot take the place of evidence in the record. In re Schulze, 346 F.2d 600, 602, 145 USPQ 716, 718 (CCPA 1965); In re Geisler, 116 F.3d 1465, 43 USPQ2d 1362 (Fed. Cir. 1997) ("An assertion of what seems to follow from common experience is just attorney argument and not the kind of factual evidence that is required to rebut a prima facie case of obviousness."). See MPEP § 716.01(c) for examples of attorney statements which are not evidence and which must be supported by an appropriate affidavit or declaration.

Presently, Appellant argues that Graph 1 shows that the eccentricity error is significantly decreased. This is not persuasive. There is no indication that this significant decrease is unexpected or critical. Moreover, there is no reasonable showing that it is the ratio  $d/D$  which causes the decrease. One could just as easily argue that it is value  $d$ , alone, which causes the decrease. After all, a small error (e.g. 1 mm) on a small object would appear to be a more significant than the same (1 mm) error on large object. To put it another way: the starting preforms could have starting eccentricity that is proportional the final eccentricity. It appears that Appellant assumes that the different sized preforms of the declarations began with identical eccentricities, but if that assumption is not valid, then one must account for the starting error when deciding whether the final errors demonstrate that  $d/D$  is the source of the different eccentricity values. It is noted Examiner is not attempting to argue/show that  $d/D$  is not the controlling variable - such is not the burden of Examiner. Rather, Examiner is merely pointing out that Appellants have not met their burden of providing evidence that reasonably show criticality.

It is argued that in the 22 March 2007 response Examiner alleged that Appellants did not provide any evidence to show the claimed range is significant and unexpected. Examiner apologizes for anything which gave such an impression. Examiner's position was that the evidence/results were considered, but that Applicant failed to show that the results/evidence were unexpected. Examiner could not understand how any of the evidence shows the results were unexpected.

**From MPEP 716.02(b) [R-2] Burden on Applicant:**

II. >< APPLICANTS HAVE BURDEN OF EXPLAINING PROFFERED DATA

"[A]ppellants have the burden of explaining the data in any declaration they proffer as evidence of non-obviousness." Ex parte Ishizaka, 24 USPQ2d 1621, 1624 (Bd. Pat. App. & Inter. 1992).

Examiner finds no such explanation.

Appellant requested Examiner to consider MPEP 716.02 when reviewing the declarations. Examiner has. Examiner finds his treatment comports with MPEP 716.02. Appellant does not point out how Examiner's examination contradicts or in any way fails to comport with this section or any section of MPEP.

As to the finding that it would have been obvious to use as big or small a preform as desired, it is argued that the invention does not merely recite a size of the preform. This is not very relevant, the preform size,  $d$ , varies directly with the claimed  $d/D$ . Making  $d$  as big or as small as desired, results in a corresponding  $d/D$ . The claims define the invention in sufficiently broad terms which encompasses those situations where one varies the size of the preform.

As to the evidence and arguments that the preform tends to get damaged unless  $d/D < 0.9$ : Examiner finds no explanation how the evidence shows the results are unexpected. Moreover Examiner does not see how one would be surprised to find that one will bump the size of the furnace when placing a relatively large item into it. Perhaps for appellant's test, that when  $d/D$  became 0.9, the preform became too heavy for the artisan for maintain good control of it. Perhaps it was the size of the opening in

the furnace that matters. After all, from Appellant's figure 1, it would be impossible for one to cause the preform to impact the heater and damage the preform - the muffle is a barrier to the heater. It may well be that Appellant's tests were based on using a d/X ratio of 0.999—in such a situation it would be extremely difficult to insert the preform without bumping the muffle. Again, examiner is not asserting this is what happens in Appellant's tests - rather it an attempt to show that there are other plausible reasons for applicant's results.

In other words: Appellant's evidence proves there is correlation between d/D and the better results. But Examiner finds there is no attempt to show or explain why one would reasonably expect *causation* between the two.

It is further argued that the present 0.5-0.9 discovery facilitates the design of the apparatus. Examiner does not dispute this. A major thrust of the rejection is that given a furnace, it would have been obvious to use any size preform – depending upon the amount of fiber one wants to make. One process may involve making a preform that is 200 mm in diameter, then wanting to make 4 times the amount of fiber in the next run, one could use a preform of quadruple the volume of starting glass, by making a preform with twice the diameter of the preform. Or in terms of the art of record: if Ishikawa's 0.93 ratio creates 200 miles of fiber, but one needed only 150 miles, one would know to reduce the size of the starting preform so as to have about 25% less glass.

Moreover, Appellant's Declaration does not support a showing regarding furnace design. The evidence appears to show the same furnace is used through out. At best the declarations are directed to preform design, not furnace design.

As to the dependent claims, 3-7 and 21-25 it is argued (Brief, pages 15-16) that various features are not disclosed by the references. This is gainsaying; there is no attempts to address the specific findings set forth in prosecution history. For example, it is argued that the chlorine and helium of claims 21 and 22 (respectively) are not taught. Ishikawa clearly teaches such: col. 9, lines 57-62

For claims 8, 10-15 and 17: the arguments are substantially the same as discussed above. Examiner finds them to be unconvincing for the same reasons given above. Antos is utilized in the rejection to address the elongating aspect of claims 8 and 15. Examiner finds no argument that in any way disputes the finding that it would have been obvious to stretch the consolidated Ishikawa preform so as to remove any remaining bubbles.

Even if the evidence show a new and unexpected result, it fails to overcome the case for obviousness.

As indicated in MPEP 2145: Evidence pertaining to secondary considerations must be taken into account whenever present; however, it does not necessarily control the obviousness conclusion. See, e.g., Pfizer, Inc. v. Apotex, Inc., 480 F.3d 1348, 1372, 82 USPQ2d 1321, 1339 (Fed. Cir. 2007) ("the record establish [ed] such a strong case of obviousness" that allegedly unexpectedly superior results were ultimately insufficient to overcome obviousness conclusion)

Examiner's duty is to weigh the evidence. Given that Applicant is attempting to claim all sizes of 0.5-0.9 of a theoretically possible 0.0-1.0. And given the well-known

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and centuries-old desirability to make anything bigger or smaller as desired (be it pyramids, roads, ears of corn or shoes), Examiner finds that applicant's evidence does not control the obviousness conclusion.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

John Hoffmann

/John Hoffmann/

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TQAS, TC 1700